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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAY ROSSITER, DAVID STOWELL, PARI BHADURI,
VENKAT MALLA, JANE CHEN, RAMKUMAR VENKATARAMAN,
YUANJIANG OU, MUTHU OLAGAPPAN, and THIVAKARAM
PRAKASH SIVAKUMAR

Appeal 2009-002633
Application 10/762,949
Technology Center 2100

Decided: March 22, 2010

Before JOSEPH L. DIXON, LANCE LEONARD BARRY, and HOWARD
B. BLANKENSHIP, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Patent Examiner rejected claims 1-6, 8, 9, 11, 16-24, 26, 31, and 33. The Appellants appeal therefrom under 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C. § 6(b).

INVENTION

The Appellants describe the invention at issue on appeal as follows.

[A] database appliance . . . executes a database server on a platform that includes a special purpose operating system specifically tailored to the services required by the database server. The hardware may also be specially tailored to the services required by the database server. The database sever may be generated from another database server by modifying the code of the other database server optimize the code for execution on said database appliance.

(Spec. 43; Abstract.)

ILLUSTRATIVE CLAIM

1. A database appliance, comprising:

a database server;

a special purpose operating system having a set of components that include some, but not all, components of a general purpose operating system, whose configuration is dictated based on a said set of services required by the database server; and

a self-configuration module that is capable of performing the steps of:

detecting an environment in which the database appliance is being used; and

configuring the database appliance based upon the detected environment.

PRIOR ART

Nilsen	5,606,693	Feb. 25, 1997
Levy	5,627,994	May 6, 1997

Stefan Schleipfer, IEEE, The ServOS Kernel: A Special-Purpose Operating System Kernel for Server Machines (1990).

REJECTIONS

Claims 1, 3, 5, 6, 8, 9, 11, 16-18, 20-24, 26, 31, and 33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nilsen and Schleipfer.

Claims 4 and 19 stand rejected under § 103(a) as being unpatentable over Nilsen, Schleipfer, and Levy.

CLAIMS 1, 2, 4-6, 8, 9, 11, AND 31

Based on the Appellants' arguments, we will decide the appeal of claims 1, 2, 4-6, 8, 9, 11, and 31 based on claim 1 alone. *See* 37 C.F.R. § 41.37(c)(1)(vii).

FIRST ISSUE

The Examiner makes the following findings and conclusion.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Schleipfer with Nilsen to increase the ease and efficiency of the configuration management task in a distributed computer systems. The ServOS kernel of Schleipfer takes simpler solutions where problems are easier to solve on server machines and it further

gives the server modules a higher-level OS support (see page 121; Schleipfer).
(Ans. 4.) The Appellants argue that "[m]erely describing the benefits of two prior art references is not enough to show obviousness without showing why one of ordinary skill in the art at the time of the invention would want to combine the respective teachings." (Reply Br. 9.)

Issue

Therefore, the issue before us is whether the Appellants have shown error in the Examiner's reason for combining teachings from Nilsen and Schleipfer.

Law

The presence or absence of a reason "to combine references in an obviousness determination is a pure question of fact." *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). A reason to combine teachings from the prior art "may be found in explicit or implicit teachings within the references themselves, from the ordinary knowledge of those skilled in the art, or from the nature of the problem to be solved." *WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1355 (Fed. Cir. 1999) (citing *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

Findings of Fact ("FF(s)")

1. Nilsen discloses "[a] distributed database application for logging large volumes of data to a plurality of database servers." (Abstract, ll. 1-2.)

2. The reference's distributed "system is implemented using workstations and database servers, and configuration controllers connected to a dual network." (*Id.* at ll. 7-9.)

3. For "[a] distributed computer that is modeled after the workstation/server model" (Schleipfer, § 1, ll. 1-2), Schleipfer "investigate[s] the problem of the best operating system (OS) support to server modules loaded on server machines." (Abstract, ll. 2-4.) The latter reference "argue[s] in favor of a special-purpose OS kernel and describes the ServOS system, which contains such a kernel." (*Id.* at ll. 4-6.)

4. In contrast to general-purpose distributed operating system kernels, Schleipfer explains that "[f]irst, the ServOS kernel takes simpler solutions where problems are easier to solve on server machines[,] [and] [s]econd, it gives the server modules a higher-level OS support." (*Id.* at ll. 10-12.)

Analysis

Nilsen discloses a distributed database system that includes workstations and (database) servers. (FFs 1-2.) Schleipfer proposes the use of a special-purpose OS kernel, viz., the ServOS system, for distributed computer systems featuring workstations and servers. (FF 3.) The latter reference explains that its special-purpose OS kernel offers the following advantages over general-purpose distributed operating system kernels. First, the special-purpose OS kernel takes simpler solutions where problems are easier to solve on servers. Second, it gives the server modules a higher-level OS Support. (FF 4.) We agree with the Examiner that these advantages

would have given a person of ordinary skill in the art reason to combine teachings from Nilsen and Schleipfer.

CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown no error in the Examiner's reason for combining teachings from Nilsen and Schleipfer.

SECOND ISSUE

The Examiner makes the following findings.

Nilsen teaches a database appliance; comprising: a database server; an operating system having a set of components that include some, but not all, components of an operating system, whose configuration is dictated based on a set of services required by the database server (see abstract, column 2, lines 15 - 35) and a self-configuration module that is capable of performing the steps of detecting an environment in which the database appliance is being used; and configuring the database appliance based upon the detected environment (Nilsen: column 3, lines 60 - 65).

(Ans. 4.) The Appellants make the following argument

[C]ol. 3, lines 24-28 of *Nilsen* specifically teaches that each element in the figures (including workstations, database servers, and configuration controllers 132 and 134) are on different computing machines. Therefore, *Nilsen teaches away* from the recited database appliance - a database appliance that comprises a database server and a configuration module.

(App. Br. 6.)

Issue

Therefore, the issue before us is whether the Appellants have shown error in the Examiner's finding that Nielsen teaches a database appliance that comprises at least one database server and at least one configuration module.

Law

"[T]he PTO gives claims their 'broadest reasonable interpretation.'" *In re Bigio*, 381 F.3d 1320, 1324 (Fed. Cir. 2004) (quoting *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000)). "Moreover, limitations are not to be read into the claims from the specification." *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) (citing *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989)).

The question of obviousness is "based on underlying factual determinations including . . . what th[e] prior art teaches explicitly and inherently" *In re Zurko*, 258 F.3d 1379, 1383 (Fed. Cir. 2001).

Analysis

Nilsen discloses a distributed database system. (FFs 1-2.) Giving claim 1 the broadest, reasonable construction, we read the claimed "database appliance" on the reference's distributed database system. Nilsen discloses a distributed database system that includes database servers and configuration controllers. (FFs 1-2.) Therefore, we agree with the Examiner finding that Nielsen's database appliance includes at least one database server and at least one configuration module.

CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown no error in the Examiner's finding that Nielsen teaches a database appliance that at least one database server and at least one configuration module.

THIRD ISSUE

The Examiner finds that the "Nilsen teaches [a] configuration controller that manages the process through which data is logged from a workstation to database server (column 3) and Schleipfer teaches to configure a server machine and to change a configuration dynamically (page 121)." (Ans. 11-12.) The Appellants make the following argument.

Even if Schleipfer and Nilsen could be combined, neither this statement by *Schleipfer* nor the configuration controller 132 of *Nilsen* teaches or suggest the recited self-configuration module of Claim 1, i.e. a module, of a database appliance, that is capable of "detecting an environment in which the database appliance is being used; and configuring the database appliance based upon the detected environment" (emphasis added).

(App. Br. 7.)

Issue

Therefore, the issue before us is whether the Appellants have shown error in the Examiner's finding that teachings from Nilsen and Schleipfer would have suggested detecting an environment in which the database appliance is being used and configuring the database appliance based upon the detected environment.

Law

"A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Bell*, 991 F.2d 781, 783 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051 (CCPA 1976)).

Findings of Fact

5. Nilsen's "configuration controller 132, 134 contains configuration data showing how many database servers are available and how they are to be accessed." (Col. 3, ll. 50-52.)

6. The "configuration controller manages the process through which data is [sic] logged from a workstation 104 to database servers 120-124. (*Id.* at ll. 43-45.) The reference describes some of the operations of the configuration controller as follows.

[A] requestor workstation 104 generates a request 202 to begin logging data. Controller 132 evaluates the request and responds 204 with the identification and access information for a primary database. 124 (DBSX) and a mirrored redundant database 126 (DBSY) to the workstation 104. The controller assigns database servers based on the type of request, the load on each of the servers, and priority information. The controller 132 also maintains a record of information about the type of request, and the start and end times for that logging request.
(*Id.* at ll. 55-65.)

7. Schleipfer teaches "configur[ing] a server machine with an (in principle) arbitrary number of server modules of arbitrary types (file, mail, etc.) and to change a configuration dynamically." (§ 1, ll. 10-13.)

Analysis

Nilsen's configuration controller 132, 134 contains configuration data showing how many database servers are available and how they are to be accessed. (FF 5.) We agree with the Examiner that the storing of such data constitutes detecting an environment in which the same reference's aforementioned database appliance is being used.

Schleipfer dynamically configures a server. (FF 7.) For its part, Nilsen's configuration controller manages the logging of data from a workstation to database servers and the same reference describes some of the operations of the configuration controller. (FF 6.) The fact that Nilsen names components 132, 134 as "*configuration* controllers" evidences that one of ordinary skill in the art would have considered these operations to be *configuring* the database appliance. Furthermore, the controller's assigning database servers based *inter alia* on the load on each of the servers, i.e., the availability of each server constitutes configuring the database appliance based upon the detected environment.

Conclusion

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown no error in the Examiner's finding that teachings

from Nilsen and Schleipfer would have suggested detecting an environment in which the database appliance is being used and configuring the database appliance based upon the detected environment.

CLAIM 3

The Examiner finds that "the hardware for said database appliance is selected and configured to optimize performance of one or more services to be performed by the database server (Nilsen: column 3, lines 60-65)." (Ans. 6.) The Appellants argue that "the above-cited portion of *Nilsen* cannot possibly show the features of Claims 3" (App. Br. 14.)

Issue

Therefore, the issue before us is whether the Appellants have shown error in the Examiner's conclusion that it would have been obvious to select and configure the hardware for the database appliance to optimize performance of one or more services to be performed by the database server.

Law

An obviousness "analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). For example, "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456 (CCPA 1955) (citing *In re Swain*, 156 F.2d 239 (CCPA 1946); *Minnesota Mining and Mfg.*

Co. v. Coe, 99 F.2d 986 (D.C. Cir. 1938); *Allen. v. Coe*, 135 F.2d 11 (D.C. Cir. 1943)).

Findings of Fact

8. Nilsen discloses that its "[w]orkstations 102 and 104 and database servers 120, 122 and 124 and central configuration controllers 132 and 134 comprise IBM PS/2 computers in the preferred embodiment." (Col. 3, ll. 24-27.)

Analysis

As previously mentioned, Nilsen discloses a distributed database system, i.e., a "database appliance," for logging large volumes of data to database servers. (FF 1.) The database appliance includes hardware such as PS/2 computers. (FF 8.) We find that a person of ordinary skill in the art would have selected and configured the hardware to optimize performance of the logging of data.

Conclusion

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown no error in the Examiner's conclusion that it would have been obvious to select and configure the hardware for the database appliance to optimize performance of one or more services to be performed by the database server.

CLAIMS 16-18, 20-24, 26, AND 33

The Examiner makes the following findings about Schleipfer.

In ServOS, the kernels and the base system use a state model for server module that differs from the state model for normal program executions supported by general-purpose OSs. Server modules are long-term existing objects managed by the base system and the kernels. The base system provides operations for creating and deleting them (page 122 - 123).

(Ans. 13-14.) The Appellants make the following argument "*Nilsen* and *Schleipfer* still fail to teach or suggest, individually and in combination, "removing one or more features of a general purpose operating system that are not required to provide a set of services to the database server." (Reply Br. 7.)

ISSUE

Therefore, the issue before us is whether the Examiner's has presented a *prima facie* case of obviousness regarding "generating a set of components of a special purpose operating system by removing one or more features of a general purpose operating system that are not required to provide a set of services to the database server."

Law

"In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness." *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993) (citing *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992)).

Finding of Fact

9. The Appellants' Specification includes the following disclosure as background to their invention.

The general purpose machines that are to implement the accounting system will typically come installed with a general purpose operating system. Similar to general purpose hardware, general purpose operating systems attempt to provide services to address all possible needs of all possible types of software. For example, general purpose operating systems employ complex I/O techniques for handling I/O intensive applications, complex techniques to support computation intensive applications, and complex communication techniques to support communication intensive applications. Many of those services may not be required by the specific context, such as accounting, in which the operating system may actually be used.

(¶ 0005.)

Analysis

The Examiner admits that "Nilsen does not explicitly teach the special purpose operating . . . as claimed" (Ans. 5.) If the reference does not teach the special purpose operating system as claimed, it cannot teach "generating a set of components of [the] special purpose operating system by removing one or more features of a general purpose operating system that are not required to provide a set of services to the database server" as claimed.

The Examiner's explanation of Schleipfer, moreover, does not appear to address the "generating a set of components of [the] special purpose operating system by removing one or more features of a general purpose operating system that are not required to provide a set of services to the

database server." If there is any correspondence between the three sentences from pages 122 and 123 of the reference and this limitation, it escapes us.

Conclusion

Based on the aforementioned facts and analysis, we conclude that the Examiner's has failed to present a *prima facie* case of obviousness regarding "generating a set of components of a special purpose operating system by removing one or more features of a general purpose operating system that are not required to provide a set of services to the database server."

DECISION

We affirm the rejections of claims 1-6, 8, 9, 11, and 31 but reverse the rejections of claims 16-18, 20-24, 26, and 33.

No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

Erc

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